UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,641	07/07/2005	Shuji Tada	OGOSH33USA	3459

270 7590 03/21/2008

HOWSON AND HOWSON
SUITE 210
501 OFFICE CENTER DRIVE
FT WASHINGTON, PA 19034

EXAMINER	
KESSLER, CHRISTOPHER S	
ART UNIT	PAPER NUMBER
1793	
MAIL DATE	DELIVERY MODE
03/21/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/541,641	TADA ET AL.	
	Examiner	Art Unit	
	CHRISTOPHER KESSLER	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,9,10 and 15-29* is/are pending in the application.

4a) Of the above claim(s) *9,10 and 26-29* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 15-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 July 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3-9-06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-3 and 15-25, drawn to a method of performing sintering.

Group II, claim(s) 9-10 and 26-29, drawn to a sintering device.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Claim 9 lacks novelty or inventive step over JP 2001335811A or JP 2004244660A. Therefore, groups I and II cannot share a common special technical feature.

During a telephone conversation with William Bak on 10 March 2008 a provisional election was made without traverse to prosecute the invention of I, claims 1-3 and 15-25. Affirmation of this election must be made by applicant in replying to this Office action. Claims 9-10 and 26-29 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Status of Claims

Responsive to the preliminary amendment, claims 4-8 and 11-14 are cancelled and claims 15-29 are added. Claims 9-10 and 26-29 have been withdrawn as drawn to a non-elected invention. Claims 1-3 and 15-25 are currently under examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18, 21 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "long sintering powder material" in claims 18, 21 and 25 is a relative term which renders the claim indefinite. The term "long sintering powder material " is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by JP2001-335811A (hereinafter "JP '811"), machine translation attached.

. Regarding claim 1, JP '811 teaches the invention as claimed. JP '811 teaches a method of sintering by passing direct current pulses through the powder body in a cylindrical mold with the application of pressure (see [0001]-[0012]). JP '811 teaches wherein the electrodes are movable about a cylindrical die (see Example). JP '811 teaches wherein the electrodes are moved relative to the work in the sintering process (see Example). JP '811 teaches that the assembly is heated during the sintering (see Example). JP '811 further teaches wherein the electrode is disposed around the cylinder mold (see Example).

Regarding claim 2, JP '811 teaches continuously effecting sintering while relatively moving a current portion and a sintering subject (see Example). JP '811 teaches wherein an electrode terminal connection assembly is affixed to the periphery of the mold that can move freely on a single axis and moved to effect sintering (see Example). JP '811 teaches the current portion moving (see Example).

Regarding claim 15, JP '811 teaches wherein the terminal assembly is fixed to a periphery of the mold and capable of moving freely and moves during sintering (see Example).

Regarding claim 16, although JP'811 does not teach wherein the sintering powder material is pressurized from both ends of the mold, this feature would be an inherent feature based on the mold type used. For example, Newton's Third Law states that for every action there is a reaction. Thus in a fixed mold, a compact being pressurized through a uniaxial load from one end of the mold as taught by JP '811 (see Example) would necessarily be pressurized from both ends of the mold. Applicant is further directed to MPEP 2112.01.

Regarding claim 17, JP '811 teaches that the electrode is moved in one direction (see Example). Thus the limitation of sintering in one direction is met.

Regarding claim 18, JP '811 teaches wherein a long sintering powder material is sintered (see Example).

Regarding claim 19, although JP'811 does not teach wherein the sintering powder material is pressurized from both ends of the mold, this feature would be an inherent feature based on the mold type used. For example, Newton's Third Law states that for every action there is a reaction. Thus in a fixed mold, a compact being pressurized through a uniaxial load from one end of the mold as taught by JP '811 (see Example) would necessarily be pressurized from both ends of the mold. Applicant is further directed to MPEP 2112.01.

Regarding claim 20, JP '811 teaches that the electrode is moved in one direction (see Example). Thus the limitation of sintering in one direction is met.

Regarding claim 21, JP '811 teaches wherein a long sintering powder material is sintered (see Example).

Claims 1 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 6,610,246 issued to Sunamoto (hereinafter "Sunamoto").

Regarding claim 1, Sunamoto teaches the invention as claimed. Sunamoto teaches a method for direct current sintering (see cols. 9- 12). Sunamoto teaches wherein a mold having cylindrical molding space is used (see cols. 9-12, Figs. 1-20). Sunamoto teaches wherein a sintering powder material is disposed in the cylindrical molding space (see cols. 9-12, Figs. 1-20). Sunamoto teaches wherein the powder is pressurized and sintering is effected by relatively moving the electrode which is displaced around the cylinder (see cols. 12-16). Sunamoto teaches wherein sintering is effected by electrifying the sintering powder material and heating it (see cols. 12-16).

Regarding claim 2, Sunamoto teaches wherein a terminal assembly is affixed to the periphery of the mold and is capable of moving freely, and that the current portion is moved to effect sintering (see cols. 12-16).

Regarding claim 3, Sunamoto teaches wherein a material with an uneven cross section is sintered while setting a heating area (see cols. 14-16).

Regarding claim 15, Sunamoto teaches wherein a terminal assembly is affixed to the periphery of the mold and is capable of moving freely, and that the current portion is moved to effect sintering (see cols. 12-16).

Regarding claim 16, although Sunamoto does not teach wherein the sintering powder material is pressurized from both ends of the mold, this feature would be an inherent feature based on the mold type used. For example, Newton's Third Law states that for every action there is a reaction. Thus in a fixed mold, a compact being pressurized through a uniaxial load from one end of the mold as taught by Sunamoto (see cols. 12-16, Figs. 1-20) would necessarily be pressurized from both ends of the mold. Applicant is further directed to MPEP 2112.01.

Regarding claim 17, Sunamoto teaches that the electrode is moved in one direction (see cols. 12-17). Thus the limitation of sintering in one direction is met.

Regarding claim 18, Sunamoto teaches wherein a long sintering powder material is sintered (see cols. 12-18, Figs. 1-20).

Regarding claim 19, although Sunamoto does not teach wherein the sintering powder material is pressurized from both ends of the mold, this feature would be an inherent feature based on the mold type used. For example, Newton's Third Law states that for every action there is a reaction. Thus in a fixed mold, a compact being pressurized through a uniaxial load from one end of the mold as taught by Sunamoto (see cols. 12-16, Figs. 1-20) would necessarily be pressurized from both ends of the mold. Applicant is further directed to MPEP 2112.01.

Regarding claim 20, Sunamoto teaches that the electrode is moved in one direction (see cols. 12-17). Thus the limitation of sintering in one direction is met.

Regarding claim 21, Sunamoto teaches wherein a long sintering powder material is sintered (see cols. 12-18, Figs. 1-20).

Regarding claim 22, Sunamoto teaches wherein a terminal assembly is affixed to the periphery of the mold and is capable of moving freely, and that the current portion is moved to effect sintering (see cols. 12-16).

Regarding claim 23, although Sunamoto does not teach wherein the sintering powder material is pressurized from both ends of the mold, this feature would be an inherent feature based on the mold type used. For example, Newton's Third Law states that for every action there is a reaction. Thus in a fixed mold, a compact being pressurized through a uniaxial load from one end of the mold as taught by Sunamoto (see cols. 12-16, Figs. 1-20) would necessarily be pressurized from both ends of the mold. Applicant is further directed to MPEP 2112.01.

Regarding claim 24, Sunamoto teaches that the electrode is moved in one direction (see cols. 12-17). Thus the limitation of sintering in one direction is met.

Regarding claim 25, Sunamoto teaches wherein a long sintering powder material is sintered (see cols. 12-18, Figs. 1-20).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER KESSLER whose telephone number is (571)272-6510. The examiner can normally be reached on Mon-Fri, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit 1793

csk